The Viet-Minh at Dienbienphu: Artillery in a Mountainous Environment

by Captain Kevin J. Dougherty, IN

Mountainous environments offer peculiar challenges for employing Field Artillery. The rugged terrain is a serious obstacle to the mobility of artillery and its ammunition. Suitable firing positions are scarce and, therefore, easily identified by the enemy. In addition, changing meteorological conditions increase the need for observed fire and registration.

The prudent commander will weigh these considerations when using artillery in the mountains. He also may want to study the Viet-Minh at Dienbienphu in Vietnam as a historical example of how to innovatively tailor his artillery tactics to fit the terrain and situation.

In December 1953 and January 1954, Colonel Charles Piroth, an artilleryman and the deputy commander at Dienbienphu, was quick to deny any threat to the French defense there from Viet-Minh artillery. He confidently informed all inquirers:

Firstly, the Viet-Minh won't succeed in getting their artillery through to here. Secondly, if they do get here, we'll smash them. Thirdly, even if they manage to keep on shooting, they will be unable to supply their pieces with enough ammunition to do us any real harm (Bernard Fall, *Hell in a Very Small Place*, J. B. Lippincott Company, Philadelphia, 1967).

General Henri Navarre, the Commander-in-Chief of the French Union Forces, expressed concern that strongpoint Beatrice to the northeast of Dienbienphu (see the map) was surrounded by dense jungle hills that could conceal many Viet-Minh heavy guns. He feared that if Beatrice fell into enemy hands, much of Dienbienphu would be vulnerable to enemy fire. Again, Piroth offered his reassurance, "Mon General, no Viet-Minh cannon will be able to fire three rounds before being destroyed by my artillery" (Fall).

Incoming

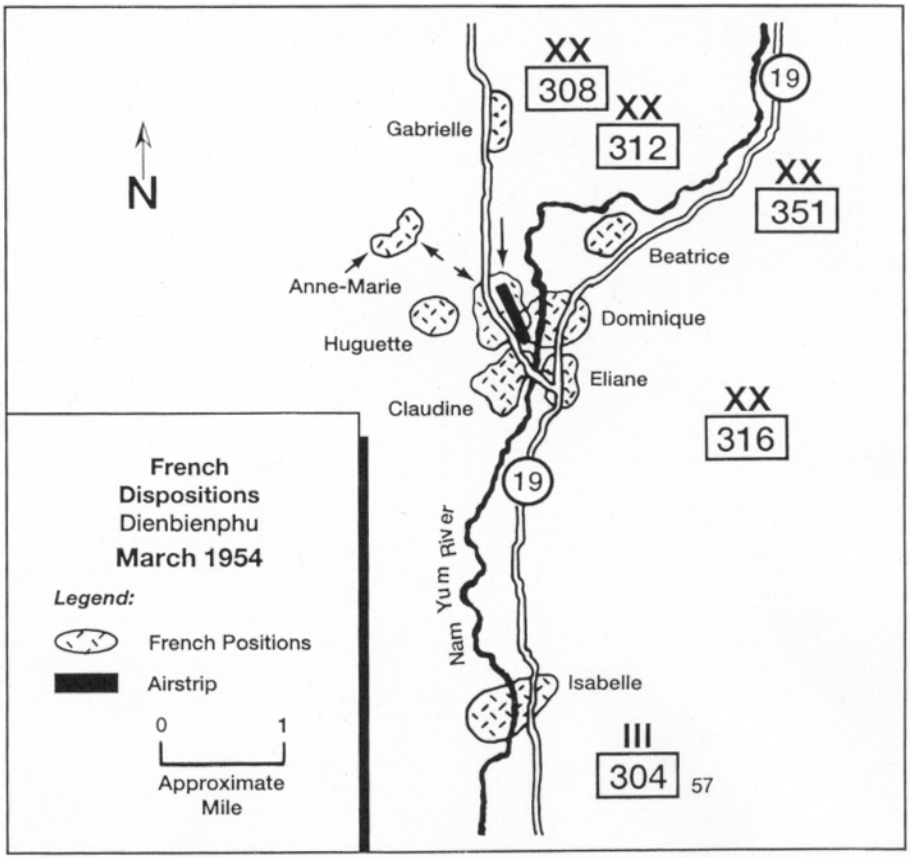
By March, however, it had become apparent that Piroth had seriously miscalculated. The French were receiving artillery fire from a variety of places and were unable to deliver effective counterbattery fire. Furthermore, a deciphered enemy logistics code revealed the Viet-Minh had 44,000 37-mm rounds, 5,000 75-mm rounds, 21,000 81-mm rounds, 15,000 105-mm rounds and 3,000 20-mm rounds in the Dienbienphu area. Thus, the French headquarters at Hanoi issued a revised report concluding that:

...total neutralization fire requires about 50 rounds per hour per hectare [2.5 acres] of terrain. The Viet-Minh is capable of delivering approximately 33 rounds per minute for a duration of five hours on the totality of the headquarters positions, the artillery and the mortars, while partially neutralizing Isabelle [the strongpoint to the south] as well....The Viet-Minh artillery is as numerous as ours, and its observation is better (Fall).

When General Vo Nguyen Giap, the Viet-Minh commander, launched his 13 March attack on Dienbienphu, the French paid a heavy price for Piroth's callous underestimation of the Viet-Minh artillery. Phillip Davidson described the fury of the bombardment in his book *Vietnam at War*:

Giap's artillery fire was heavy and accurate. The east fortification on Beatrice turned to dust under the pounding; the mortar battery on Gabrielle [the strongpoint to the north] was smothered; the French artillery emplacements in the main position were hit, where two guns were knocked out and several crews killed or wounded (Novato, Presidio, 1988).

Sergeant Kubiak, one of Dienbienphu's defenders, remembered that "shells rained down on us without stopping like a hailstorm



Battle of Dienbienphu, December 1953 to January 1954. The French Union Forces faced the Viet-Minh in 55 days of fighting with the Viet-Minh conquering the French. The Viet-Minh artillery was highly effective in the mountainous terrain, making the most of mobility, cover and concealment and observation.

on a fall evening. Bunker after bunker, trench after trench collapsed, burying under them men and weapons "(Fall). Additionally, the artillery struck Dienbienphu's airfield, destroying planes, fuel and munitions. Things would get much worse before they got better.

At 1830, an artillery round hit the French command post at Beatrice, killing Major Paul Pegot, the 3/13 French Foreign Legion half-brigade commander, and his entire staff. A few minutes later, another shell killed Lieutenant Colonel Jules Gaucher, the commander of the northern defensive sector. These two rounds robbed Beatrice of its leadership. The coordination of the defense faltered, and the French companies soon began fighting their own separate battles (Davidson).

On 14 March, the Viet-Minh resumed its artillery bombardment at 1700. The artillery destroyed the remaining aircraft, runway, control tower and beacon. This loss of their airfield forced the French to rely on airdrop resupply for the duration of the siege. To make matters worse, the enemy artillery had destroyed what few vehicles the French had. This necessitated their recovering the widely scattered bundles by hand, a physically exhausting and time-consuming task (Davidson).

The following day brought more of the same. At 0400 on 15 March, a round landed on the battalion command post at Gabrielle. The battalion commander, his replacement and most of the staff were wounded. Additionally, the radios connecting the command post and the companies were destroyed (Davidson). As at Beatrice, artillery had interrupted French command and control at Gabrielle.

Thus, in just three days, Viet-Minh artillery killed or wounded several key French leaders, disrupted the French ability to fight a coordinated battle and isolated Dienbienphu from any air-land resupply or reinforcement. How could artillery accomplish such a devastating effect in a mountainous environment, an environment so rugged that Piroth, an artillery man, had denied the possibility? Much of the answer can be found in Giap's efforts to maximize the mobility, cover and concealment and observation of his artillery.

Mobility. *FM 90-6 Mountain Operations* states, "Field Artillery must be as mobile as the force it supports" and "planners must make sure that increased consumption is included in the computation of the required supply rate (RSR) for ammunition." In this regard, Giap's use of artillery at Dienbienphu is exemplary.

No one really knows how much artillery the Viet-Minh had around Dienbienphu. Giap never revealed the numbers or calibers. However, estimates by various French and American authorities led to the conclusion that the Viet-Minh had 20 to 24 105-mm howitzers, 15 to 20 75-mm howitzers, 20 120-mm mortars and at least 40 82-mm mortars (Davidson).

The 500-mile route to supply the Viet-Minh at Dienbienphu started at Mu Nam Quan on the Chinese border.

The real surprise to the French was not that the Viet-Minh had that much artillery; they had known about that for a year. What the French completely discounted was the mobility of the Viet-Minh artillery. This meant not just transporting the heavy pieces across road-less mountains to Dienbienphu, but also keeping them supplied with sufficient ammunition to have an effect. The task is even more impressive when one considers the mainstay of the supply system were columns of porters pushing bicycles modified to carry heavy loads (Fall).

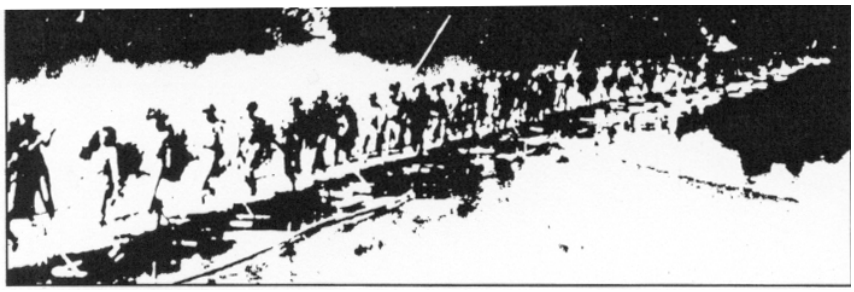
The Viet-Minh lines of communication began at Mu Nam Quan on the Chinese border over Provincial Road 13-B to the Red River and from there via Provincial Road 41 to Dienbienphu. Taking into account all the detours, deep fords, blown bridges and alternate bypasses, the journey was more than 500 miles. Nearly 20,000 coolies and tribesmen slaved for three months to rebuild and widen Road 41 so it would accommodate the artillery pieces and the 800 Russian-built Molotova 2 1/2 ton trucks that were the backbone of the conventional supply system. To this civilian support were added the efforts of the 151st Engineer Regiment and 88th Regiment of the 308th Division.

The most difficult challenge was the last 50 miles of the route from the main supply dumps at Tuan Giaoto to the valley. Here the road simply ceased to exist and had to be built from scratch. This also was where the road was closest to the French airfields and subject to frequent aerial surveillance and bombardment (Fall). After the battle, Giap wrote of the effort:

Our troops opened the road and hauled the artillery pieces into our lines...during seven days and seven nights...our troops razed hills, cut roads into mountainsides and opened the road to the artillery in the prescribed time. The secret was well-kept, thanks to excellent camouflage, and the roads were kept open until the end of the battle....Night and day, the enemy bombed those very difficult roads, and nonetheless, our transports got through on the whole (Fall).

The success of the Viet-Minh mobility and supply effort is told by the numbers. Early French estimates expected the Viet-Minh to be capable of bringing in only enough ammunition to support a five- to six-day attack (Davidson). Instead, French artillery specialists at Dienbienphu estimated that throughout the 55-day battle, the fortress was hit by approximately 30,000 shells of 105-mm and probably more than 100,000 shells of other calibers. This amounts to 1,300 to 1,700 tons of munitions delivered to the valley between December 1953 and May 1954 (Fall). Bernard Fall, perhaps the most learned scholar of the battle, goes so far as to say, "essentially, then, the battle of Dienbienphu was won along the communications lines."

Cover and Concealment. FM 90-6 notes that "the relative scarcity of good firing positions increases the probability of receiving enemy fires when occupying a desirable position." Recognizing this, Piroth boasted, "If I get 30 minutes of advance warning, my counterbattery fire will be effective" (Fall). Giap also realized this and addressed it with extraordinary



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Although the Viet Minh relied on guerrilla operations, General Giap also fielded well-armed regular divisions, each with an organic engineer battalion capable of supporting movement with pontoon bridges.

cover and concealment for his artillery.

Dienbienphu was surrounded by densely vegetated mountains that provided excellent camouflage and protection for Giap's artillery. Giap took advantage of this situation by digging in his pieces so they could either be fired from portholes or pulled out of their positions to fire and then pulled back in as soon as the counterbattery fire began. Weapons were moved into positions under the concealment of darkness, and the camouflage was so thorough that even the paths of the ammunition handlers were hidden (Colonel Charles Biggio, Jr., "Let's Learn from the French," *Military Review*, October 1966).

To complete the effect, Giap established a few dummy positions he knew the French could see. With Viet-Minh soldiers setting off explosives to simulate firing, the French were tricked into firing 1,650 rounds of 105-mm on one set of dummy emplacements (Jules Roy, *The Battle of Dienbienphu*, Carroll and Graff, New York, 1963). The result of these Viet-Minh efforts were positions dug so "deep and well camouflaged [they] were well-nigh impervious to both napalm and HE [high-explosive rounds]" (Captain M. Harrison, "Dien Bien Phu," *Canadian Army Journal*, October 1954).

Navarre acknowledged the perfection of the Viet-Minh cover and concealment and observed, "We knew that a large number of artillery and AA gun emplacements had been prepared, but their camouflage had been so perfect that only a small number of them had been located prior to beginning the attacks" (Davidson).

Even Bearcat pilots flying risky, low-level photograph missions were unable to see anything (Roy): Recalling the confident predictions of Piroth, Navarre lamented that the efficiency of the Viet-Minh artillery positioning "was to make a shambles of all the estimates of our own artillerymen. It was the major surprise of the battle" (Davidson).

Observation. Another FM 90-6 conclusion is that terrain restrictions in the mountains generally will necessitate using high-angle indirect fire. Weather also will play a key role, and rapidly changing meteorological conditions will decrease the accuracy of predicted fires. Thus, FM 90-6 notes that observed fire "should be the norm" and registration "is essential" in mountainous environments.

Giap recognized the importance of observed fires and registration, but he had overriding considerations that steered him away from high-angle indirect fires. Giap knew his artillerymen lacked experience, training and a reliable communications network. If he placed his guns behind the hills surrounding Dienbienphu and used them for indirect fire, he could not range the French. On the other hand, if he put them on the forward slopes, he would be exposed to counterbattery fire and air attack (Davidson). Citing this dilemma, the French felt the role of Viet-Minh artillery would have been minimal.

FM 90-6 states, "Field Artillery observation posts (OPs) should generally be placed on the highest available ground." It also recognizes that "some weapons may be moved forward to provide...direct fires." Giap's employment of his artillery demonstrates these considerations. By occupying the high ground 3,000 to 4,000 meters from the airstrip and 1,500 to 2,000 meters from the French entrenchments, Giap's artillery had excellent observation (Davidson). By firing in the direct-fire mode, Giap minimized the effects of his gunners' lack of experience and austere communications.

As America began its involvement in Vietnam, Colonel Biggio in his article "Let's Learn from the French" cited tactical lessons for America to learn from the French experience in Indochina. One lesson was "the French underestimated the capability of the enemy to innovate and to tailor his tactics to fit the situation." As an example, Biggio offered Giap's unusual, but highly effective, employment of his artillery on the forward slope in a direct-fire role.

The excellent observation allowed the Viet-Minh to register its artillery on the French airfield and revetments where the maintenance crews worked (Fall). The effects of this observation and accuracy are illustrated by a single Viet-Minh 75-mm mountain howitzer that had been zeroed in on the airfield since February 1. This one piece damaged or destroyed almost a dozen French aircraft without being detected (Fall).

Innovating

Dienbienphu was the decisive battle between the French and Viet-Minh in Indochina. A large measure of the Viet-Minh success was due to Giap's careful employment of his artillery in a mountainous environment. Most of Giap's techniques—his emphasis on mobility, cover and concealment and observation—are consistent with the considerations expressed in FM 90-6. However, his unconventional use of the forward slope and artillery in the direct-fire role demonstrate there's always room for innovation.

Today's artillerymen can use Dienbienphu as an example of how a firm grounding in the fundamental principles supplemented by a realistic appraisal of one's capabilities and limitations can result in successfully employing artillery in the mountains.

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